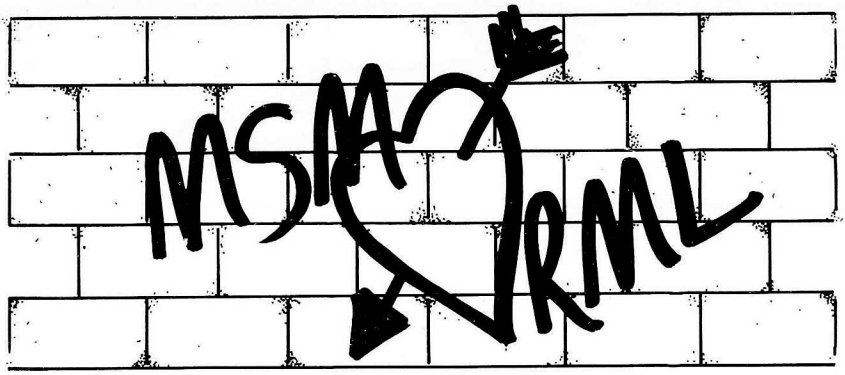
RM User

Vol. 2 No. 2 April 1987

The Journal of the RM User Group



OK.....we admit it, the caption is a bit over the top, but hands up all of you who have had dealings with RML at Oxford. Well, those of you with your hands up will know what nice people they are. MSM knows what nice people they are because we have dealings with them every day. So, who is MSM? We are Micro System Maintenance Ltd., RML's authorised national service agents. Our staff have been associated with RML since their earliest days, and whilst modesty forbids us to say that we know them intimately, we will readily admit to being intimate with the insides of those clever machines that they make. If your 380Z, 480Z or Nimbus needs attention, we'll fix it for you, and we won't charge you the earth. If you are responsible for keeping networks up and running, talk to us about a maintenance contract; our quotation will pleasantly surprise your financial manager.

We are the only company authorized to do warranty work, and we also carry out upgrades and modifications, either on-site or at one of our regional service centres.

Contact us at:

MSM Service Desk
c/o Research Machines Ltd.
Mill Street,
Oxford.
OX2 0BW.
Telephone (0865) 249866

(Please mention 'Read Using')
We'll send you an information pack and/or a quotation

MICRO SYSTEM MAINTENANCE LTD., WESTLEA, SWINDON, WILTS. TEL: 0793-616888

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Editorial

As you can see from elsewhere in this issue, RM have certainly moved up-market.

Those of us who were able to get to the *Which Computer? Show* at the National Exhibition Centre in February were impressed and, I think, delighted to see RM with two cracking new machines.

There was a great deal of interest from the merry throng that goes to such shows and RM's machines certainly knocked spots off the offering from APRICOT.

As seems to be the case with all new machines you can't actually *buy* any yet! By the time you read this, the first 6 or so will have been delivered and things will be hotting up through the summer. It's just a shame that availability won't be better.

Apart from the new hardware, there are the continuing software developments for the NIMBUS. A cheap parallel port is being released which will also support the BBC printer and user ports. This is an internal fitting and an acceptance of the big booby which saw the NIMBUS released without a parallel port. At the time of writing (March 7th) no price is available as validation isn't complete. What is known is that there is a 7-8 week wait for the existing piconet module as RM have lost the case supplier.

A new release of WINDOWS is coming which contains extra printer drivers and is aimed at both Desktop Publishing and the new machines.

Further to my comments elsewhere, RM clearly haven't sorted out a variety of internal management problems. The day after I tried to contact Sales, the Service and Tech Support depts were out of touch for most of a day (Thursday) due to meetings. Most of these meetings seemed to have been with the Personnel Director and perhaps reflect a real tension within RM between the 'old guard' and the 'new boys' from Phillips, brought in to beef up sales to corporate bodies. It's clear that the Phillips boys have little real interest in the education market below universities and other institutes of higher education. My understanding of the situation is that the founders of RM are concerned about this tension.

Certainly they need to be. Some 90% of RM's sales now involve the NIMBUS going into the main state systems where the 480Z or Beeb went before. To treat this market with less than respect will be asking for trouble.

Finally, do use the User Group for help and advice. Ring any of us listed on the **Help-Line** page and if we can't give you an immediate answer we will get back to you.

Help-Line

If you have a problem with your RM machines, 8-bit or 16-bit, then ring any us listed below:

		Expertise
Robin Davies:	0902-23735 (home) 0902-737328 (work)	8/N/16
Ken Maynard:	0438-352467 (work) 0438-354809 (home)	8/N/16
Steve Burrows:	051-644-9482 (work)	8/N/16
Graham Townsend:	01-572-1936 (work) 0372-66043 (home)	8/N
John Ward:	0865-272331 (work) 0865-725412 (home)	380Z & CP/M
Peter Bishop:	01-948-4382	8/16
Tim Davey-Winter:	0865-278826 (work)	8/16/N
Steve Rochford:	01-572-4461 (work)	8/N
Keith Ashby:	023-383-378 (work) 023-383-409 (home)	Nimbus

Remember that the User Group can be reached on Telecom Gold at 72:MAG90380 and via PRESTEL 8804936.

Letters can be sent to the Editor whose address is listed elsewhere.

Whittle Systems

Turbo Charge your Nimbus New Low Prices

SI-TURBO	—511k Silicon Disk driver software	**£25**
WS20 XW	—20 Megabyte external Nimbus Winchester	**£799**
WS20 FW	—20 Megabyte external Nimbus Winchester with 5.25 inch floppy disk drive	**£994**
WS40 XW	—40 Megabyte external Nimbus Winchester	**£1495**

Nimbus Viewdata

NVD-DISPLAY	—Nimbus VIEWDATA display & terminal emulator	**£49.95**
EXAMPLES 1	—EXAMPLE database	**£15**
NVD-TUTOR	—Editing tutorial database	**£25**
NVD-EDITOR	—Nimbus local VIEWDATA SYSTEM *(includes NVD-DISPLAY and NVD-TUTOR Database)*	**£95**
TRAPDOOR	—The ultimate debugging aid	**£49.95**
ZEM	—Z80 CP/M Emulator	**£49.95**
CP/M 80 Programmer's Guide by Morrell & Whittle		**£8.95**

Network prices of software

Up to 8 stations	@ 3 × standalone price
Up to 16 stations	@ 4 × standalone price
Up to 24 stations	@ 5 × standalone price
Up to 32 stations	@ 6 × standalone price

All prices exclude P & P and Vat.

9, Herschel Crescent, Littlemore, Oxford OX4 3TS Tel 0865 711956

News from the world of RM

Naturally, the big news has been the release of the AX and VX series which is covered elsewhere, along with the re-packaging of the dear old NIMBUS by sticking on some new labels. Well, to be honest, it's a bit more than that!

Release 2 of the NIMBUS Network software has yet to happen. At the time of writing (March 4th) only a few lucky sites have been using a pre-release version much like the one seen at the User Group Weekend last November. At the moment we all struggle on with Release 1.

RM have release an IBM emulator for the NIMBUS PC at a price of £49 per site. RM are currently validating a large number of packages for use with the emulator and for up-to-date information you are advised to contact Sales. You will need firmware 1.25A upwards, at least 786K of RAM and a maximum of 192K silicon disk RAM. *Do not* rush out and buy cheap IBM software without checking with RM first. Current packages that are being validated as at February are:

Paradox TK! Solver Supercalc 4 Smart
Turbo Prolog Multimate Advantage WordStar 2000 Rbase V
Word Perfect Framework Open Access Xi-Plus

Copy protected packages, such as *Symphony* or *SPSS-PC+* – or those requiring a dongle – will not work. Packages which make extensive use of communications, such as *Cross Talk*, will not talk. IBM packages which cannot work in either monochrome or CGA mode (eg., EGA packages will not work, not will packages which require the use of a Mouse (eg., GEM)

Naturally, some of these restrictions may perhaps go, but even if they don't, we are still left with a much wider range of software for use on the NIMBUS.

Users of the VALIANT Turtle should contact Sales if they haven't seen sight of the September 86 release concerning the use of the Turtle with the NIMBUS. RM sell a turtle/NIMBUS cable for give-away price of £9.

Users of WORD will need the update to WORD 2, Version 1.08 which is a maintenance release and, amongst other things, provides the following:

Corrects an error in WORDJ.COM

supports additional HP Laser font cartridges

with EPSON LX & FX printers there is now no need for separate files if you want new letter quality output.

Support for the £ sign on the Apple laser printer.

Several EPSON PRD files are modified to give italics on the LX80 & FX80 and proportional spacing on the LQ1500/

The upgrade costs £9 and there are various other prices for upgrades from stand-alone to network and WORD 1 to WORD 2. As always, contact the Sales Desk for details.

Talking about the Sales Desk, I rang them this afternoon and was told that there was nobody available in Sales from 2pm to 3.30pm! I found that incredible. The reason was "a meeting with the Personnel Director". Why couldn't half the Sales team see him in the morning and the other half in the afternoon, so that the customers could get some service?

RM BASIC Version 1.1a is now available. This is a bug fixer and now includes parallel piconet support. The upgrade costs £10. Version 2 of RM BASIC will be available later, from early summer. This will do all sorts of lovely things, including making use of banked memory for program arrays. More info later.

All new systems supplied from the middle of January come with a 1.5MB Silicon Disk Driver which allows 960K for user ram and 0.5MB for silicon disk. This provides great benefits for all users, especially those with networks and those using WINDOWS. An upgrade disk and instructions is "freely available" from RM for £10.

RM are now shipping the SXN40 high capacity fileserver which comes at a snip for £2875 (schools); £3875 (education) and £4995 (general).

Now for the bad news. RM are no longer shipping as standard the MS-DOS 3.1 Reference manual with PC1 and PC2 systems. You must buy it for £9.95.

RM have announced (26th February) details of the complete DOMESDAY package. Typical prices for the complete package are as follows:

PC1 – £3495 (school)	£4495 (education & general)
PC2 – £3645 (school)	£4645 (education) £5191 (general)
X20 – £4195 (school)	£5195 (education) £6096 (general)

This includes (from March) the latest PC. Earlier PCs aren't compatible and there will be no way of upgrading an old PC.

Updates

PMS Communications Ltd have written to me after the review of DIALUP in the last issue. Problems I had with up-loading files were due to a faulty modem cable/dongle. The point I made about having to reload DIALUP after an unsuccessful attempt to log-on is being dealt with so that in the next release of the 480Z version one will be taken back to the Main Menu. There is also a price correction. DIALUP Educational is £94.89 and the price of the SCHOOLS MODEM is £235.44. The NIMBUS version is out and I am trying that. Details later, but so far, so good.

If you try to contact the WHITTLE SYSTEMS host (see *RM User Vol 2:1*) on 0865-714312 answer log-on requests with nine 4s and then four 4s. This latter will take you into a demo database. Pages to look at are 77 and 771.

0.0000, 0.0000
AUTOCAD
SETUP
BLOCKS
DIM:
DISPLAY
DRAW
EDIT
INQUIRY
LAYER:
SETTINGS
PLOT
UTILITY
3D
SAVE:
Command: ZOOM
All/Center/Dynamic/Extents/Left/Previous/Window/<Scale(X)>:

RM's New Machines

First of all, this isn't a review, just a preview. As you can see from the photograph, the NIMBUS family styling is retained. In fact, the dear old NIMBUS is now called the RM NIMBUS PC-186!

The new NIMBUS VX-386 and NIMBUS AX-286 series are designed to make RM and major contender in the UK business market – selling to power users in business, government, desktop publishing, engineering and graphic design – and substantially increase its share of the research and higher education market. RM also see the systems acting as powerful servers in schools and colleges.

The VX-386 features the 32-bit INTEL 80386 microprocessor with 2 to 3 times the raw processor power of a VAX 11/785. It can run several applications at the same time each with its own memory environment.

The AX-286 is based on the 16-bit INTEL 80286 processor, running at 12MHz and is 50% faster than the IBM PC AT.

Both series have superb graphics capabilities and are all software and hardware plug-compatible with the IBM PC AT and compatibles.

They are NIMBUS PC compatible and indeed, at the *Which Computer? Show*, Peter Bishop was able to put an IMB PC version of his *DeltaStat* into an AX and run it happily in NIMBUS mode simulating an IBM PC. Disk access was slow (this is being improved) but the program ran faster.

The VX and AX series come in myriad configurations. A few examples follow.

A diskless network station (AXTZ) costs £1250

A stand-alone AX20 with 20Mb Winnie & single 5¼" drive will set you back £1895

A network server with 60Mb Winnie will cost £3,995.

A VX network server costs £6095. This will support up to 4 networks of 48 stations!

Prices are very competitive and RM's expertise with networks will be a major selling factor. What will be interesting is to see how many end up in schools.

The NIMBUS was originally not expected to go into schools very much, being seen as a business machine. We all know what has happened! I wonder if the AX will do likewise.

Advertising

We accept advertisements for **RM User.** The charges below assume that camera-ready (black & white) artwork is supplied. Any advertisements typeset by **RM User** are charged at cost. **RM User** is an A5 format Journal and Advertisements are accepted at the Editor's discretion.

Full Page: **£50**
Half Page: **£30** Quarter Page: **£18**

The *copy deadline* for the next issue is: **May 1st 1987.**

Olly (Captain Bruce) Cook's
Letter from Australia

Beach Hut 2117
Banzai Beach
Australia PC1 XN20

Gday Sport,

I thought I'd put pen to paper now I'm back downunder after my recent trip to stay with the Brits part of the family. Some of the things going on in that green and pleasant land of yours were really quite amazing, so much so that the folks here don't really believe me till I show them the snapshots. Let me explain . . . .

My wife's second cousin, Bruce senior, is a primary school teacher in a distant part of the Midlands, who took the boss's new fangled NIMBUS home with him for me to see over the Xmas holidays. Talk about teach me a thing or two! It wasn't just the obvious like Windows that impressed, but also that his kids were into Write, Logo, Grass and the like (more about that last one in a moment)! Mind you, getting the machine started after a cold night was a bit of a problem. It seems like the temperature range of one of the chips has been incorrectly set. I'm having a similar helluva game out here with the temperature in the 80's – does a NIMBUS only start on an average British type of day?

But back to my holidays. I can just about cope with 6 year olds word processing with Chad or painting pictures with Brush and that marvelous cheap track-ball, but when I was told they were using Grass I nearly blew my mind (so to speak). Things really have come far! However, it looks as though Grass is doing for educational database what QUEST was doing when I was last in the Country three years ago – it can even read the same files.

I made the mistake of suggesting we put the latest cricket test match scorecards into the data base. This was pretty useless until the kids brought up the graphical output of the runs scored. That was enough to make me stretch for another Fosters. The people at Newman College in Birmingham have got a real winner here. With material like this the NIMBUS cannot fail!

It seemed to me that nearly everyone in education is buying NIMBUS with a few noteable exceptions. Talking of exceptions, who/what/why etc. is M.E.S.U? Even I know where, but that's about as far as it goes. Anyhow, Windows kept me enthralled for days cutting and pasting from one package to another, even if the printouts screwed up after the first couple of pages. I thought Invision was

something you got after using Grass (stop chuckling you ageing hippies) and Draw seemed ace but cost £200. Apparently to schools in Blighty this sort of money is peanuts. They all seem to be queuing up to buy Spa's Newspaper at the same price.

I went to the Barbican and saw this product on display, but what a place to hold an exhibition! Who but educationalists could put together something that took place in two halls separated by a dual carriageway? Rumor has it that the User Group editor went for lunch and it took him four hours to get back across the road. Mind you that's his excuse. Still, back to Newspaper – nice work guys and well worth the money if you can afford to wait the twenty minutes or so to print off one sheet of paper in color. Still, its another excuse to crack another can.

Talking of which, who is taking the can at RM for the lack of good cheap communications software? Here in the outback I rely on my Commutel pack with the BBC micro I took home with me a couple of years ago.

I am told that the BBC computer is a competitor for NIMBUS but that seems a little far fetched. Bruce also tells me that their new Really Insignificant Steps in Computing machine may have an impact but I'm not so sure.

I bet my last but one Fosters that by the time this letter wings its way to you RM will have announced a 32 bit something or other and perhaps a lookalike for big blue (yawn, yawn). I suppose it's great for those using superb design packs like that new one called Compass, but to be honest, which I always am, it won't matter to those infants already doing so well.

One of those little 'uns caught me with this one: "How do you stop a mouse?" Answer: "Remove his ball(s)". Apparently Young Adolf, Bruce Junior's 2 year old brother, inside only a few seconds did exactly that, and threw the mouse's part 'Aussie Rules style' into the garden undergrowth. Apparently RM can't get any replacement ones so the moral is simple . . . . . guard your balls carefully! And, of course, congratulations to RM for a prize cockup in the design process.

Anyhow, the lager and sun are beginning to take effect, so let me finish on a really high note (as the aforementioned mouse probably would).

Out here we're really into LOGO, you know the forwards 20, outback 30, etc. I was, however, amazed to see Bruce Junior with his RM Logo and its sprites, turtles and even his own designed dingbats zinging over screen and floor. And if this wasn't enough, he even had some of his Lego kit built into a model of a garage which he had connected to a piconet module stuck in the NIMBUS.

Well, he'd programmed it in Logo, yes Logo, and every time his car went past a sensor it opened the garage doors automatically! Bit like the real thing only mine has gone a haywire recently and tends to open all the doors in the street! To say that I was impressed is a helluva understatement, and in fact I've booked a flight over next August for the BLUGGERS conference in some place called Walsall. Mind you, there's got to be a few lager heads in that lot – any group who call themselves Bluggers must have a sense of humour.

O.K. sports, time for a final can. See you in the summer with more news from upover (or downunder).

Yours windowing

Sheila

Notes:

Windows	*from Research Machines*
Write	*from Oxfordshire C.C.*
Logo	*from Research Machines*
Grass	*from Newman College, Birmingham*
Chad	*from Northamptonshire C.C.*
Brush	*from A.U.C.B.E.*
Quest	*from A.U.C.B.E.*
Fosters	*from any Off-Licence*
M.E.S.U.	*from Warwick University Campus*
Draw	*from Research Machines*
Invision	*from Research Machines*
Newspaper	*from SPA, Leamington Spa*
Compass	*from British Thornton*
Lego	*is a registered trade name*

Letters to the Editor

Internationale Schule e.V.
Hamburg
Holmbrook 20, 2000 Hamburg 52
☎ 040/8 80 20 66-67

Dear Robin,

Do you know if there is a utility program for the CHAIN network which repacks files on the Winchester in order to use space efficiently?

On some systems it is called *Squeeze*.

Regards,

Paul Barclay

8, Linton Gardens
Bury St Edmunds
Suffolk IP33 2DZ

Dear Editor,

I recently withdrew Volume 21 from the User Group Library and John Ward suggested that I should comment on the SPELL utility. This I have done and my comments follow. I hope that they will be of some use.

SPELL is a versatile utility which will check quickly through a document, marking as it goes any words it does not recognise. There is the facility to create your own supplementary dictionary (necessary, as it is American!). The documentation is clear and helpful.

I have tried it on a 480Z with single drive and silicon disk, using WRITE files. SPELL is intended mainly for WORDSTAR users with the CTRL-QL facility, but it is useable in WRITE by patching a visible character at location 0800H.

To use, place SPELL.COM and DICT.DIC on the default drive or A: and type:

```
SPELL mydoc.ext
```

As the file is checked, so the chosen character is placed before each problem word and eventually written to disk under the original name. The old file is renamed MYDOC.BAK and any previous files called MYDOC.BAK are deleted.

The new file can be output to a different drive by adding the drive specification to the end of the command line.

Because of its American origins it does not recognise a number of properly spelled English words (*colour* is an obvious example), so a user dictionary is a necessity. This can include Proper Nouns and specialist vocabulary, though for computer use the main dictionary appears to contain a selection of computer jargon! SPELL automatically looks for SPELL.DIC, your own dictionary of words, but it is possible to specify more than one user dictionary in the command line.

As we are only a poor Primary School (*sob, sob*) we have not got WORDSTAR so I cannot comment on that aspect of its use. However, the ability to check important documents for that easily missed by the eye is a valuable and useful facility (and cheap!)

What amazes me is the age of the program. It is dated 1982 and, like other superb utilities (NEWSWEEP in particular) is well worth the waiting.

Yours sincerely,

David Crofts

Library News 20

The library now has 23 volumes of 3/480Z software and one and a bit volumes of NIMBUS software. The copying fee for each 8-bit volume is £1.50 and from this issue the fee for NIMBUS volumes is £5. If you do not send a formatted single density disk then the additional media charge is £1.50 for 5¼" and £2.50 for 3½" and 8" disks. If you have not got old magazines with the catalogues of each volume's software then send for volume 0. This contains indexes of all 3/480Z software volumes. In addition to our own 23 volumes we have about 80 volumes of software from other public domain libraries. What you want might be in the library. The program FIND on volume 0 will help you search.

Volume 22 of 8 bit software is released and its catalogue appears at the end. WOOD.LBR is a collection (a library) of programs from Roy Wood of the Paulet School. MAYNARD.LBR is Ken Maynard's programs for adding routines to BASIC. Sybil Wostenholm from Wolgarston High School has contributed utilities to find and protect files. These are in WOSTENHO.LBR. Mr. Grimes from Myton School sent in a simple front end for a 480Z network and this is to be found in GRIMES.LBR. UNSOFT.COM will convert Wordstar files with high bits set and dot commands etc. into plain ASCII text files. (Ever tried to 'type' a Wordstar file?) I bet the Editor wishes there was a utility to go the other way when he gets my copy but I've not found one.

Ken Taylor sent in a patch for CP/M 2.2 or ZCPR2 to make both sides of a disk into one device. i.e. A: and C: become just A: and B: and D: become B:. He thinks it was written by Chris Mitton of BECC. A clever patch that does for CP/M 2.2 what Nick Talbot did for 1.4 in *Read Using* 5. The patch is called BIGDISKS.ZSM.

Ken also wrote "I have now installed ZCPR2 on all my disks and it's made my life so much easier, esp. the MENU program which I have employed along with my password-protection/user-number-changer routine to give a relatively high level of protection to my pupils' work disks. I can now have several pupils using the same disk, access both BASIC and Oxfordshire WRITE and stop all (most?) copying/cheating of coursework."

Lovely to get a letter like that. I can't understand why more users have not installed ZCPR2. It comes with 31 utilities and a 138 page user guide ready to run on volumes 15, 16 and 17.

I have been continuing my experiments with modems and have bought a Miracle WS4000. I'm using software called MEX (Modem EXecutive) which is a very comprehensive public domain program. If there is a demand I will release it in volume 23 which is planned to be a communications volume. I think the library should have versions of KERMIT for all our machines and any other proven terminal/file transfer software. Any offers?

I hope to have more news of the remote bulletin board system, RBBS, next issue when you readers have had chance to respond. Whilst the Editor can be reached on Telecom Gold anybody with access to a university machine linked to JANET can send mail to me as BIGJ on UK.AC.OX.VAX2. Unlike Telecom Gold, this is free!

There is (was) a bug in MENU.COM on volume 16 which only shows itself with a MENU.CPR file bigger than 12K. The fix involves changing 10 locations as below and 'saving' the result.

```
address          is          change to
1DB           22,8C,01        00,00,00
21C           2A,8C,01        CD,EF,08
268           2A,8C,01        CD,EF,08
1A7              34              39      /alters version number to 1.9
```

```
RMNUGL Volume 22.

        -CATALOG.R22    This file.
        CRCK    .COM    Checksum program.
        CRCKLIST.R22    Checksums of RMNUGLIB volume 22.
        USQ     .COM    Unsqueezer for *.?Q? files.
        CREDITS .R22    List of software authors.

Catalogued by John Ward, 15/2/1987.

Extract  files from .LBR files using LU.COM volume 14.09 or  NULU volume 21.03.

22.01 GRIMES  .LBR  38K  Simple front end for 480Z network
22.02 MAYNARD .LBR  19K  Adding routines to BASIC by Ken Maynard
22.03 WOOD    .LBR  54K  Lots of programs from Roy Wood
22.04 WOSTENHO.LBR   9K  Utilities to find and protect files
22.05 UNSOFT  .COM   6K  Converts WS files into plain ASCII
22.06 BIGDISKS.ZSM   6K  Makes both sides of disk one device on CP/M 2.2
```

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Micro Market

This is one of the many services offered by the User Group. If you have any RM equipment that you want to buy or sell, then why not try the Micro Market? RM's sound hardware will probably last for ever and should not suffer from being secondhand.

If you have secondhand equipment that you want to sell please write to the Secretary who will ensure that it is included in the list.

This list is prepared afresh for each issue of *RM User* and there will be no items carried over from one issue to the next.

Please include your membership number with each Micro Market entry
Failure to do this will mean you are charged £18 for the ad!

List of equipment for sale or wanted – April 1987

For Sale: 10 PIO boards for the 380Z at £15 each
SAE to the Editor

For Sale: 380Z,56K, FDS2, 40/80 screen with NEC 12" monochrome monitor, UCSD PASCAL.
Offers to:
Dr. J H Smith, Faculty of Economics, University of Manchester, M13 9PL ☎ 061-273-7121 ext 5623

For Sale: 32016 co-processor for BBC. 1Mbyte ram and all the software: Fortran 77; Pascal; Editor; C; Lisp; BBC Basic; Assembler. Sold by Acorn as part of their Cambridge work-station. 84 kips whetstone (can upgrade to 112 or 140, I think)., ie., VAX750 number-crunching power for less than £1000

Wanted: One HRG board for 380Z Contact: John Ward, Clarendon Laboratory, Oxford
☎ 0865-272331

WORDSTAR original – versions 2.3 and 3.0
Offers to:
John Ward as above.

► Remember ◄

Deadline for next issue is **May 1st**

Advance Notice

Tenth RM User Group Conference

Friday 23rd October to Monday 26th October 1987

This year's RM USER GROUP Conference will appeal to business and educational users alike. It will be a day longer than the 1986 conference, to give more time for hands-on workshops. Courses are planned for topics of major significance, including . . .

Desktop Publishing	Aldus Pagemaker
Integrated Business Software . .	Lotus 1-2-3
Computer-Aided Design	Autocad
Word Processing	MS Word 3

More than one software package will be included in some of these topics.

Programming courses will not be neglected. This year the emphasis will be on implementing different versions of the same language, and transferring software from 8-bit (480Z) to 16-bit (NIMBUS) computers. Programming languages will include . . .

Pascal	ProPascal, TCL Pascal, MS Pascal
C	Aztec C, MS C
Prolog	The latest implementations
Logo	Logotron Logo and others

The conference venue, to be announced later, will be in the Midlands area, chosen for easy access from all parts of the UK. The price will be approximately £135.00 per delegate.

Please send me further details about the RM USER GROUP 1987 Conference when they become available.

Name . . . . . .
Address . . . . . .
. . . . . .
. . . . . .
. . . . . .
Postcode . . . . . .

Suggestions for additional courses:

. . . . . .
. . . . . .
. . . . . .
. . . . . .

Return to:

RM User Group Conference
Peter Bishop Associates
23 Larkfield Road
Richmond
Surrey TW9 2PG

Case History

by Leading Edge

Our NIMBUS X10 will be 2 years old in May. During that time it will have probably averaged about 8 hours work a day, five days a week. It was born with 128K of memory plus 10MB hard disk, since then it has acquired 1MB memory plus .5MB silicon disk, a windows operating system and various other software.

It has had two breakdowns. In its first year the hard disk had to be changed. On Christmas Eve 1986 it was turned on after lunch (one of the few times it has been turned off during the day), and only the cooling fan came on. Now to most people that would have been an excellent excuse to start the Christmas holiday early. Unfortunately the Christmas holiday is a time when we receive more enquiries than usual for the holiday business we run. With all customer particulars and accounts on the NIMBUS an urgent repair was necessary.

A quick phone call to RM at Oxford ascertained that they had virtually closed for the holiday, but they suggested MSM Ltd who have a branch in the South East in Orpington, Kent, just off the M20. A call to them sounded promising providing the machine could be got to them in time for them to repair it before 5.30pm. An hour's drive and it was in their hands at 4 o'clock. At about 5.20pm I left with a repaired NIMBUS.

MSM did not actually have the requisite new power supply in stock, so they cannibalised a new X16 that they had just purchased for their own use. They also have an insurance scheme, which includes on site repairs within 24 hours. The cost of this is about twice the amount per annum that we have actually had to spend on repairs since new, however, had our hard disk failed outside warranty, it would have then been cheaper to insure.

I have been working on two other projects which run on IBM 100% compatible machines, but not on the standard NIMBUS. With the introduction of the new AX and VX series together with the IBM emulator software for the ordinary NIMBUS, there are very few if any IBM programs that won't run on a NIMBUS.

I have been using BORLAND *Lightning* and BORLAND *Word Wizard* to assist a 16 year old who is severely dyslexic. After ten years of remedial tuition, his spelling is worse than an average 10 year old and seems unlikely to improve, but, and this is important, he can recognise about 75% of common words when he sees them spelt correctly. Many people "learn" French for ten years and have similar ability with that language. His vocabulary and comprehension are better than average for his age.

BORLAND *Lightning* is a co-resident spelling checker with an 80,000 word dictionary and Thesaurus. Every word you type on the computer is checked when written. If the word is incorrectly spelt the computer will beep. At this stage you have several choices:

a. Correct the spelling yourself, the computer will beep if it is still wrong.

b. Press Alt-F10 and a window appears with a list of alternative spellings that either sound or look similar; up to 24 are presented, if you see the correct spelling move the cursor over it with the arrow keys and press enter, the new spelling is inserted in place of the incorrect one.

c. If you are sure your word is spelt correctly, the last option on the word list allows you to add the word to the dictionary, thus for color you may add colour, or any combination of letters you like for the name of a product, person or place. Sometimes you may feel a word is spelt incorrectly and yet when you press Alt-F10 you get a message – word spelt correctly, Press F2 for sound alike words – Pressing F2 displays a list of sound alike words any one of which you may select to replace the word before the cursor. In addition you may use the Thesaurus to generate a list of synonyms for the word before the cursor. BORLAND *Lightning* will not provide an alternative word for one of the dyslexics commonest faults, that of starting words with the wrong letter i.e. BO for DO, DE for BE, BUS for DOES.

Some actual examples that are corrected are as follows, with the number from the top of list of words offered in brackets:

Iclo = icicle (15); champan = champagne (1);
Cefol = careful (7),lesas = lesson (13);
mune = money (10); roed = road (23); sed = shed (3);
fed = feed (3); bonns = bonus (6);
and on sound-alike: rod = rode (4); muck = much (9).

Another program that accesses BORLAND *Lightning*'s files is *Word Wizard*. This is a selection of word games and solvers complete with TURBO PASCAL source code and on line examples of TURBO PASCAL source code.

One of the most useful is *Cross Solver*. With this you enter the letters that you know of any word and a space for those you don't. A list then appears on the screen with every word that includes that letter combination, even better if you put an asterisk instead of a space, every word appears that includes the adjacent letters, in effect an asterisk is an elastic space.

BORLAND *Lightning* is a useful tool for dyslexic spellers. Its greatest fault for this purpose is that too many less common words are included which allows it to pass misspellings which a less comprehensive vocabulary would query, for example it counts dos as a word, dos is common misspelling for does. Although *Lightning* has the facility to create specialist auxiliary dictionaries of up to 2000 words, there is unfortunately no facility for deleting words from the main dictionaries. In conjunction with *Lightning*, Clive is using a simple database program where he is able, with outside help, to store the English translation of words that *Lightning* is unable to fathom: words like dadros for dangerous. A printout from this provides a handy checklist.

The other project I have been working on during the last few weeks is computer aided design, the draughtsman and engineers' ideas processor.

I looked at IN*A*VISION and DRAW that run prettily with WINDOWS, but they lack facilities that I regard as essential.

AUTOCAD is the industry leader in this field. However it is aimed at the corporate market, who have no qualms over paying in excess of £2000 for a program. The program I have been using is PRODESIGN 2.

It appears to do everything that a program that costs ten times as much will do. Autodimensioning, blocks, sections, layers, overlays and zooming are all supported, but the really useful facility in addition to these is the ability to draw a line from a point at a preset angle for a precise distance, no need to refer to a scale.

We have been making working drawings for panels for timber frame houses, the largest of these panels is about 4000 × 3000 millimetres so a point is set each side of the screen, the program then asks how far these are apart, a response of 4500 ensures every measurement in millimetres not only fits on the screen and is displayed to scale, but is subsequently printed out on printer or plotter, also to scale.

Having drawn the individual panels they can be assembled on screen to ensure an accurate fit, these can be in the form of layers on one drawing or many individual drawings to make one composite drawing. Having drawn any part of the drawing it may be autodimensioned, both length of lines and angles, if the points generating these are subsequently changed the dimensioning information is updated automatically.

Anyone who has to make drawings for the manufacture or construction of anything would benefit from this program, as would surveyors and anyone concerned with measuring and displaying areas to scale – areas are calculated automatically. To find all this in one program is not new, but at this price it is.

However, Autocad are fighting back, for £79.00 they have a program that does most of the things grown up Autocad will do, except manipulate blocks, rather a severe disability but worth considering if your drawings are simple or budget very tight.

I hear you ask, "will it run on a NIMBUS?" The answer is not on yours! unless you have RM's IBM emulator program.

I have been running PRODESIGN 2 on our NIMBUS with a pre release version of this, apart from a few rough edges, that I am sure will not be present in the version released in April, and which do not affect PRODESIGN'S drawing ability, it has worked perfectly, being noticeably faster than PRODESIGN on a 99% IBM compatible machine. Soon this emulator program will open the whole wide world of software, for machines that are described as 100% compatible, to the NIMBUS.

Talking of compatibility, RM's new AX and VX NIMBII with 80286 and 80386 cpu's are fast and as near as 100% compatible as possible, plus being able to run all previous RM software. So you have a choice, buy a nice new AX or VX in June, or pay 50 for a program that persuades the NIMBUS that it is an IBM. Put it in a batch file with the program you want to run and you won't know that your NIMBUS isn't an IBM, except that in spite of having to walk through treacle it is still faster than an IBM.

But beware with memory resident programs, like *Lightning*. Early versions of the emulator may not jive with these. Myself, I am using the emulator until RM will condescend to supply me with an AX. However there are other machines more easily available and with an 80286 processor. Postponing acquiring a machine is trying my patience. Come on RM, you have designed some great new machines, put on some extra shifts and let the punters have them!

More from WORD

by R. Melville

In this article I will describe some of the traumas and some of the successes of getting more from MICROSOFT WORD and an EPSON MX printer than at first appears possible.

When we received our first NIMBUS we also bought a copy of MICROSOFT WORD. There were the initial teething problems because we had never used the machine or the software before. Those of you who have moved from an 8-bit to a 16-bit machine without any preparation or training and are left to read the manuals will no doubt have had similar experiences. However, I was eventually making good use of the greater power of the word processing package.

Having an EPSON MX/FT80 dot matrix printer already I was disappointed that WORD did not enable me to use all the fonts available on the printer, such as the condensed, except as capitals.

At this stage I could not get WORD to use the enlarged font of the EPSON either but that was partly because I had not read enough of the manual! On the other hand, WORD provided an italic script which the printer could not reproduce. At this point some would go out and buy another printer but I hadn't the resources!

Initially I was using the EPSON MX prd file, which, those of you who have used it will know, does not print superscript and subscript properly nor the underlining.

Therefore, I decided with fear and trepidation to investigate the printer files. Up to this point I had hardly used pathnames and sub-directories as a friend had come to my rescue and set up the EPSONMX.PRD file. So I was jumping in at the deep end – at least that's what it felt like!

For the benefit of those who are not familiar with all these instructions I will describe them in full so that even the most timerous may move confidently. I know, you have heard that before and don't believe it! I sympathise! For those who are more experienced you can skip those detailed instructions. I am giving the instructions for the keyboard because everyone one has one but not everyone has a mouse!

The first thing I did was to get a print out of the WORD instruction printer file. To do this you must first of all find the file! Insert a copy of the WORD distribution disc.

In the instructions below the characters you type are in OCR typeface.

[Regrettably the dot matrix printout of the various printer effects was too faint to reproduce, so they have been simulated by the typesetter]

To list the files on disc type

```
DIR <CR>
```

I shall not include the <CR> command except on a few crucial occasions as generally it is obvious when you need it. If you don't use it, nothing happens!

Amongst the files displayed is one called UTILS <DIR> so get a listing of its contents by typing `DIR UTILS\*`

One of its files is called CONVPRD.DOC. That is the one we want. You can screen read the file if you want to by typing `TYPE UTILS\CONVPRD.DOC`

You can control the scrolling by holding down the CTRL key and pressing `S` to stop and restart the scrolling.

Next load WORD by typing:

```
WORD
```

Now load the file to be printed so:

Press the ESC key to move from text to the commands at the bottom then type

`T` for transfer
`L` for load in response to the filename `UTILS\CONVPRD.DOC`

When the file is displayed on the screen make sure the printer is ready and type:

`P` for print
`P` for printer

I am assuming that you already have a print file ready for use. If not you will read below how to do this. For the rest of this article only the initial letter of each command will be given.

At the end of the print out you will have plenty to read!

The next document to print is the printer file. First leave WORD by typing `ESC` and `Q`. So still using a copy of the distribution WORD disc we will look at the printers directory . Let's first look at the root directory again by typing `DIR`

There we shall see a sub-directory PRINTERS <DIR> so type:

```
DIR PRINTERS\*
```

This displays a list of the various makes of printers whereas what we want are the models so type:

```
DIR PRINTERS\EPSON\*
```

Amongst the list are 2 files, one called EPSONMX and another called EPSONMXG. At first sight the mx file, having the same letters as the printer itself would appear to be the obvious choice: but don't be deceived! What we really want is the EPSONMXG file.

You will notice that all these files have the extension PRD which means we cannot read them so we will have to convert them to TEX files first. In order to do this we need to use the CONVPRD.EXE utility.

To do this it would be helpful, though not essential, to transfer a copy of it from the sub-directory to the root directory. Using the copy of the distribution disc type:

```
COPY UTILS\CONVPRD.EXE CONVPRD.EXE
```

It is important to leave a space after COPY and between EXE and CONVPRD and nowhere else. If you now type DIR you will see that this file is in the root directory.

Similarly, we shall need a copy of the EPSONMXG file in the root directory so type:

```
COPY PRINTERS\EPSONMXG.PRD EPSONMXG.PRD
```

Having both these files in the root directory we are ready to change the PRD files to TEX files so type:

```
CONVPRD
```

This requests the name of the PRD file: so type

```
EPSONMXG.PRD
```

This requests the name of the TEX file: so type

```
EPSONMXG.TEX
```

You must include the file extension name in both.

In answer to the next prompt type T for text file.

To print out the file reload WORD, then press

```
ESC T L EPSONMXG.TEX
```

to load the document; then press

```
ESC P P
```

to print the document

If you have not previously had a printer file ready now is the time to do so. Type

```
ESC P O EPSONMXG  <CR>
```

Now you can go back to page 2 and print the documents.

At this point it would be a good idea to create a file called 'tstprnt' to test the output of WORD on the printer. Below is such a test file.

Having typed in the first test line use the copy command for the repeats. Then go back to the beginning and highlight each line using the function keys F6 F9 F8 F9. Follow this with the appropriate alt key. And so work your way down the document but not highlighting the last four lines at this stage.

TESTING PRINTER....testing word for formatting

ALT B
TESTING PRINTER....testing word for formatting

ALT I
TESTING PRINTER....testing word for formatting

ALT K
TESTING PRINTER....testing word for formatting

ALT S
TESTING PRINTER....testing word for formatting

ALT U
TESTING PRINTER....testing word for formatting

ALT D
TESTING PRINTER....testing word for formatting

ALT +
HOW^TESTING PRINTER....testing word for formatting

ALT –
HOW_TESTING PRINTER....testing word for formatting

enlarged
TESTING PRINTER....testing word for formatting

enlarged bold
TESTING PRINTER....testing word for formatting

enlarged condensed
HOWTESTING PRINTER....testing word for formatting

enlarged condensed bold
TESTING PRINTER....testing word for formatting

If you look at pages 213 & 214 of the WORD manual you will find a little more information about these commands.

This was printed using the final print file described later in this article. Before continuing save the file by typing:

```
ESC T S
```

for the filename TSTPRNT

I propose to change the Italic font of WORD to the condensed font. To do this load EPSONMXG into WORD by typing ESC T L and for the filename: EPSONMXG.TEX; Then ESC P P to print it.

If you look at the second page of your printout of the EPSONMXG file you will find a list of bytes. The carat ^ indicates control codes; the open square bracket **[** indicates escape codes. On the pages of the EPSON printer manual that list the codes the first set are control codes and the second set beginning with ESC obviously are escape codes.

We need to make the following alterations to change from the italic mode to the condensed:

```
From  byte:136 mod:0 "^[4"     to   byte:135 mod:0 "^O"
From  byte:140 mod:0 "^[5"     to   byte:140 mod:0 "^R"
```

The original codes ^**[4** and ^**[5** set the italic mode on and off. ^**O** switches on the condensed mode and ^**R** switches off the condensed mode. These codes are obtained from the EPSON manual. But things are not as straightforward as that for in the manual the codes are given in Hex and decimal but not in characters!

Finding the required information to convert decimal to characters may take some time! Once you know that A is 1 you can then work out that decimal 15 is the letter O, being 15th letter of the alphabet. You might at this stage like to write down in 3 columns headed: the letter, hex and decimal, ready for future use, unless you have a copy of it in some publication.

The other alteration we need to make is to the character width tables (Wtps) because the condensed mode is narrower than the italic mode. From the CONVPRD document that we have printed we read on page 5 that the 2nd and 4th numbers in the tables are for the italic mode which we are changing to the condensed so we must insert the correct character width.

Turning back to the first page of the print out of the EPSONMXG document we find that the first font size 16 is for the condensed capitals (called small caps in WORD). Here the Wtps is given as 7. So in the next two font sizes change the second and fourth number to 7

thus	12	12	12	12	becomes	12	7	12	7
and	14	14	14	14	becomes	14	7	14	7

This needs to be done in both fonts (Pica and PicaD). Before we can use this file we need to change it from a TEX file to a PRD file.

byte:154 mod:0 "^N"
byte:160 mod:0 "^T"

This removes the strike through facility and replaces it with the enlarged codes.

By now you should be familiar with what to do so save the document, use the Library command to convert the TEX file to a PRD one. This time you will be asked if you want to replace the file; answer "Y". Once back in WORD load in the TSTFILE to print and check all is well.

Here are some of the enlarged print modes now available using the format character command

	Option to highlight		Type in	
Format for printing	bold	italic	font	size
enlarged	No	No	Pica	32
enlarged-bold	Yes	No	PicaD	32
enlarged-condensed	No	Yes	Pica	32
enlarged-condensed-bold	No	Yes	PicaD	32

If you have typed quite a long line to be printed in enlarged font you will notice that it is not printed out exactly as it is shown on the screen. To see how it will appear on paper use Options in the main menu and highlight the Yes of the printer display and then press <CR>. This does not reproduce the enlarged characters on the screen but it will give the line layout.

I have also experimented with other combinations of character formatting using the alt keys and here are some that may be of interest.

You can of course use more than one alt key after another to produce different effects. For example;

alt i d
TESTING PRINTER(TYPE AS CAPS)....testing printing (typed as lc)

alt i +
TESTING PRINTER(TYPED AS CAPS)....testing printing (typed as lc)

alt k +
TESTING PRINTER(TYPED AS CAPS)....testing printing (typed as lc)

One combination that is not possible to print is bold superscript but you can combine these and produce an extra heavy bold thus:

alt b +
TESTING PRINTER(TYPED AS CAPS)....testing printing (typed as lc)

Using a DTI Modem with a Nimbus

by Mike Sharp

Not having any special software, I use WINDOWS TERMINAL to control my DACOM DTI modem to access *The Times Network Systems* (TTNS) telephone database and electronic mail system.

I am using a serial piconet module set to modem operation although it is possible to do without.

Preparations

Make up a lead, wiring the following pins on the 25Ds:

Piconet		Modem
2	→	2
3	→	3
5	→	5
7	→	7
20	→	20

Configure your piconet module, using PICONFIG to modem and 1200 baud. Remember to set the header in the piconet module to DTE (see 2.6 of *Piconet Serial Interface: How to use it*). Set your aux/piconet socket to Piconet using CONFIG.

Setting up TERMINAL

Load WINDOWS and select TERMINAL. You now have to configure TERMINAL to work with the DACOM modem. Since WINDOWS assumes all modems use Hayes protocols, and the DTI modems do not, you have to fool it by telling TERMINAL that it is talking to another computer rather than a modem.

Choose the Settings option from the menu bar and set each option as follows:

TERMINAL:-

TERMINAL type:-	ANSI
Newline	[Off]
Local Echo	[Off]

Auto Wraparound	[On]
Text Size:-	Large
Lines in buffer:-	500
Translation:-	UK
Connections:-	
Baud Rate:-	1200
Word Length:-	7
Parity:-	Even
Stop Bits:-	1
Handshake:-	Hardware
Connection:-	Computer
Port:-	COM1

Phone:

I don't think these are relevant, but here they are just in case

Connect to:-	[leave blank]
Dial Type:-	Pulse
Speed:-	Slow
Wait for Tone:-	15
Wait for Answer:-	60

Now save all this information in a file called DACOM.TRM

Preparing Your Logon Information

Using WINDOWS NOTEPAD, prepare a file containing your login information starting with the modem control if you are not using the defaults. Here is my logon file:-

```
V21T
93;88511

D2
NTIMESN208CZY
A21230021001
ID TCD100103
(password)
```

The V21T is a command to the modem to switch itself to 300/300 baud working which I find the most satisfactory of the local PSS nodes. The 93;88511 is a command to the modem to dial 93, pause then dial 88511 which is a Packet Switch Stream node at Maidstone which connects me with BT GOLD and hence to TTNS.

The four line feeds are delays, then the D2 informs the PSS of profile of my terminal (I really must find the time to try different combinations and see what effect they have. I only use this one because its the standard for a 380Z!)

The next two lines connect me with the TTNS computer in London.

The last two lines are the CEAU identity codes and password to allow access to the system.

When you have completed your own logon file, save it in a file called CONNECT.TXT.

Getting It All Together

I have modified my WIN.INI file so that DACOM.TRM and CONNECT.TXT both load and run, together with their respective parent programs, at boot time, the screen being equally divided between the two windows. The theory was that it then would be a simple matter to highlight the whole of my connect file, cut it to the clipboard (which is always present) and close NOTEPAD. Unfortunately, that doesn't work as TERMINAL does not appear to buffer the pasted file. I still use the above, but the NOTEPAD is just an aide memoir and I type it manually then pause TERMINAL and close NOTEPAD.

It is confusing at the start as some commands are echoed, some are replied to and some are obeyed but not echoed!

V21T – not echoed. Reply:&+++
93;88511 – not echoed. Reply: &DLG,9388511
&WAT
&CTL
<n/l>
<n/l>
D2 – not echoed. Reply:MAI\A001-6220040001

NTIMESN208CZY partial echo – ntimesn Reply:ADD?

A21230021001 echoed. Reply

23421230021001+COM

Welcome to the Times Network System 01

Please Sign On
>

From here on its all plain sailing. The TERMINAL program now has the whole screen and everything you type is echoed.

After logging off TTNS TERMINAL does not automatically disconnect the telephone line. Either press the reset button on the modem or type 4 lots of CTRL-AS at the keyboard. In either case look for the &DIS message from the modem to ensure the line has been disconnected.

Miscellany

by Mike Sharp

Using single sided discs with the Nimbus

I managed to acquire some boxes of single sided 3½" discs so, naturally, wanted to use them with the NIMBUS. RM expect you to use double sided 3½" diskettes and the manual is written accordingly. Here is what I discovered.

When you format a disc it appears to format in cylinders – ie track 1 side 1 then track 1 side 2 then track 2 side 1 then track 2 side 2 then . . . Single sided discs are often, although not always, faulty on side 2 and so it is dodgy to format them as above. In PCDOS there are more switches for format than the RM manual describes; the RM manual only gives /s and /o One such switch is /1 – format single side. So I tried FORMAT /1 /S and lo and behold, it worked!

Book Review:

Good Housekeeping in PCDOS
by David Lawrence & Mark England
Sunshine Books ISBN 0-946408-96-3 £10.95

This is a book about *Learning to love Batch files*. Although written for the IBM PC, the vast majority of the many examples given run quite happily on the NIMBUS.

The book does not set out to be a guide to the commands available in MSDOS, but many features of the batch commands are discussed in context in the commentaries to 50+ batch files used as examples. Also there is a valuable chapter on methods and programming style within batch files which points out limitations of which I had not been aware.

I would recommend this book to all NIMBUS users who need to configure systems and to network managers in particular.

480Z QUEST to NIMBUS QUEST

by Barry Warhurst

In Wolverhampton secondary schools we have recently been introduced to the NIMBUS sixteen bit microcomputer by being provided with a NIMBUS network server. This has been met with a great deal of excitment and enthusiasm from both teachers and students.

However I was a little taken aback to discover that all my 480Z QUEST files were no longer of use because the NIMBUS version of QUEST, though much improved, would not infile them. I felt that it was so important to be able to use all our databases on both systems that I decided to investigate the differences and see if I could successfully transfer files from the 480Z to the NIMBUS. The following program written in NIMBUS BASIC is the result.

Basically the problem fell into two parts. Firstly the header of the NIMBUS QUEST file is layed out differently than the 480Z version. Some new information has to be collected including author, title and version number as well as laying the old information out in a new way. The NIMBUS header is laid out as follows:

Author
Title
Title
Version
Edition
Date eg:19870116
Time (also eight digits)
Publisher
Copyright
Series eg:Databases
ISBN
Contents eg:Census Data
The next six lines can be left blank.
0
D
Number of records in file.
Number of fields per record.
0

Then each field has:

Fieldname
Number of lines in fieldname explanation.
Explanation lines
Data type I:Integer R:Real S:String
Fieldlength
13
Rogue value for field.
Blank

After the last field the number of lines printed so far including this is one is recorded.

The second part of the file is the data which is recorded in the same order as the 480Z version but each piece of data is preceded by its length in characters. Consider the following two records:

480Z version

```
Joseph
Smith
14
151272
```

NIMBUS version

```
6Joseph5Smith2146151272.....
```

These values are actually CHR$(6), CHR$(5) etc

The following program will read a 480Z QUEST file, ask the user for the new information, allow you to alter explanations and then write the file in a suitable format for the NIMBUS version of QUEST. The 480Z files have to be transferred to a 3½" disc first.

Some readers may wish to transfer some of their databases to the NIMBUS but not be able to transfer their files to a suitable disc. If this is the case you may send to me any 480Z disc and a formatted NIMBUS disc plus 1.00 and I will copy your files across for you and give you a copy of the BASIC conversion program (to save your fingers). Any profits will go to the *RM User Group* funds.

```
100 REM ******************************************************
110 REM *    480Z QUEST to NIMBUS QUEST Conversion Program   *
120 REM *                                                    *
130 REM *                    By B.Warhurst Valley Park School *
140 REM ******************************************************
150 CLEAR 9000
160 Startpage
170 DIM Fname$(20), Fieldlen(20), Fielddes$(20), Datatype$(20), Rogue$(20)
180 Recnumber := 0 : Fieldnum := 0
190 SET MODE 40 : SET PAPER 1 : SET BORDER 1
200 Read_{QUEST}_File Fname$(), Fieldlen(), Fielddes$() RECEIVE Recnumber,      Fieldnum, F$
210 Get_New_Data RECEIVE Author$, Title$, Ver$, Edition$, Pub$, Copyr$,
    Series$, Isbn$, Contents$
```

```
220 Set_Up_Fields Fname$(), Fielddes$(), Datatype$(), Rogue$(), Fieldnum
230 Write_File F$, Fname$(), Fielddes$(), Datatype$(), Rogue$(), Fieldnum,
    Recnumber, Author$, Title$, Ver$, Edition$, Pub$, Copyr$, Series$,
    Isbn$, Contents$, Fieldlen()
240 Change_Data F$, Fieldnum
250 Ans$ := ""
260 REPEAT
270   SET PEN 10 : PRINT "Do you wish to convert more files (Y/N)"; :
      SET PEN 14 : INPUT Ans$
280 UNTIL Ans$ = "Y" OR Ans$ = "y" OR Ans$ = "N" OR Ans$ = "n"
290 IF Ans$ = "Y" OR Ans$ = "y" THEN RUN
300 END
310 PROCEDURE Read_{QUEST}_File Fname$(), Fieldlen(),
              Fielddes$() RETURN Recnumber, Fieldnum, F$
320   REM f$: filename recnumber: number of records on file
330   REM fieldnum: number of fields in each record  field: counter
340   REM fieldlen():length of each field  fielddes$():field description
350   REPEAT : CLS : HOME
360     SET PEN 10 : PRINT "Name of 480Z QUEST file in full" : SET PEN 14 :
        INPUT F$
370     Test_Ext F$ RECEIVE Er
380   UNTIL Er = 0
390   OPEN #11, F$
400   INPUT #11, Recnumber
410   INPUT #11, Fieldnum
420   INPUT #11, Dunno
430   FOR Field := 1 TO Fieldnum
440     INPUT #11, Fname$(Field), Fieldlen(Field), Fielddes$(Field)
450     PRINT "*";
460   NEXT Field
470   PRINT : CLOSE
480 ENDPROC
490 PROCEDURE Get_New_Data RETURN Author$, Title$, Ver$, Edition$, Pub$,
              Copyr$, Series$, Isbn$, Contents$
500   REPEAT
510     CLS : HOME
520     PRINT : PRINT "Please supply the following information:" : PRINT
530     SET PEN 6
540     PRINT "Author "; : SET PEN 14 : INPUT Author$ : PRINT : SET PEN 6
550     PRINT "Title "; : SET PEN 14 : INPUT Title$ : PRINT : SET PEN 6
560     PRINT "Version "; : SET PEN 14 : INPUT Ver$ : PRINT : SET PEN 6
570     PRINT "Edition "; : SET PEN 14 : INPUT Edition$ : PRINT : SET PEN 6
580     PRINT "Publisher "; : SET PEN 14 : INPUT Pub$ : PRINT : SET PEN 6
590     PRINT "Copy right "; : SET PEN 14 : INPUT Copyr$ : PRINT : SET PEN 6
600     PRINT "Series/T "; : SET PEN 14 : INPUT Series$ : PRINT : SET PEN 6
610     PRINT "ISBN "; : SET PEN 14 : INPUT Isbn$ : PRINT : SET PEN 6
620     PRINT "Contents "; : SET PEN 14 : INPUT Contents$
630     SET PEN 10 : PRINT : PRINT "OK (Y/N)"; : SET PEN 14 : INPUT Ans$
640   UNTIL Ans$ = "Y" OR Ans$ = "y"
650 ENDPROC
660 PROCEDURE Set_Up_Fields Fname$(), Fielddes$(), Datatype$(), Rogue$(),
              Fieldnum
670   REM
680   REM
690   C1 := 6 : C2 := 14 : C3 := 10
700   FOR Field := 1 TO Fieldnum
710     CLS : HOME
720     SET PEN C1 : PRINT "FIELDNAME: "; : SET PEN C2 :
                     PRINT Fname$(Field)
730     SET PEN C1 : PRINT "EXPLANATION: " : SET PEN C2 :
                     PRINT Fielddes$(Field)
740     REPEAT
750       PRINT
760       SET PEN C3 : PRINT "Do you wish to change the explanation   (Y/N)"; :
          SET PEN C2 : INPUT Answer$
770     UNTIL Answer$ = "Y" OR Answer$ = "N"
780     IF Answer$ = "Y" THEN SET PEN C1 : PRINT "New description: " :
        SET PEN C2 : INPUT Fielddes$(Field)
790     REPEAT
```

```
800       SET PEN C1 : PRINT "Data Type I, R or S"; : SET PEN C2 :
          INPUT Datatype$(Field)
810     UNTIL Datatype$(Field) = "I" OR Datatype$(Field) = "R"
                                    OR Datatype$(Field) = "S"
820     SET PEN C1 : PRINT "Rogue value: "; : SET PEN C2 :
                     INPUT Rogue$(Field)
830     PRINT : PRINT : PRINT
840   NEXT Field
850   CLS : HOME
860 ENDPROC
870 PROCEDURE Write_File Filename$, Fname$(), Fielddes$(), Datatype$(),
              Rogue$(), Fieldnum, Recnumber, Author$, Title$, Ver$,
              Edition$, Pub$, Copyr$, Series$, Isbn$, Contents$, Fieldlen()
880   REM
890   REPEAT : CLS : HOME
900     SET PEN 10 : PRINT "Please type in the new filename in full:" :
        SET PEN 14 : INPUT Nf$
910     Test_Ext Nf$ RECEIVE Er
920   UNTIL Er = 0
930   CREATE #11, Nf$
940   PRINT #11, Author$
950   PRINT #11, Title$
960   PRINT #11, "#"; LEFT$(Nf$, LEN(Nf$) - 4)
970   PRINT #11, Ver$
980   PRINT #11, Edition$
990   PRINT #11, " 19861016"
1000  PRINT #11, " 13235440"
1010  PRINT #11, Pub$
1020  PRINT #11, Copyr$
1030  PRINT #11, Series$
1040  PRINT #11, Isbn$
1050  PRINT #11, Contents$
1060  FOR Lin := 13 TO 18
1070    PRINT #11
1080  NEXT Lin
1090  PRINT #11, "0"
1100  PRINT #11, "D"
1110  PRINT #11, RIGHT$(STR$(Recnumber), LEN(STR$(Recnumber)) - 1)
1120  PRINT #11, RIGHT$(STR$(Fieldnum), LEN(STR$(Fieldnum)) - 1)
1130  PRINT #11, "0"
1140  FOR Field := 1 TO Fieldnum
1150    PRINT #11, Fname$(Field)
1160    PRINT #11, "1"
1170    PRINT #11, Fielddes$(Field)
1180    PRINT #11, Datatype$(Field)
1190    PRINT #11, RIGHT$(STR$(Fieldlen(Field)),
                   LEN(STR$(Fieldlen(Field))) - 1)
1200    PRINT #11, "13"
1210    IF Rogue$(Field) <> "" THEN PRINT #11, Rogue$(Field)
           ELSE PRINT #11, "0"
1220    PRINT #11
1230  NEXT Field
1240  V := 24 + Fieldnum * 8 : PRINT #11, RIGHT$(STR$(V), LEN(STR$(V)) - 1)
1250 ENDPROC
1260 PROCEDURE Change_Data F$, Fieldnum
1270  SET PEN 10 : PRINT : PRINT :
                   PRINT "Changing data ..... please wait." :
                   SET BORDER 10
1280  OPEN #12, F$
1290  FOR Lin := 1 TO (Fieldnum + 1) * 3 : INPUT #12, A$ : NEXT Lin
1300  Temp$ := ""
1310  ON EOF #12 GOTO 1370
1320  A$ := GET$(#12)
1330  IF ASC(A$) <> 13 THEN Temp$ := Temp$ + A$ ELSE
      PRINT #11, CHR$(LEN(Temp$)); Temp$; : Temp$ := ""
1340  GOTO 1310
1350  PRINT ".";
1360  GOTO 1310
1370  CLOSE
1380  PRINT : PRINT : PRINT "File converted." : SET BORDER 1
```

```
1390 ENDPROC
1400 PROCEDURE Test_Ext F$ RETURN Er
1410   Er := 0
1420   IF RIGHT$(F$, 4) <> ".qst" AND RIGHT$(F$, 4) <> ".QST" THEN Er := 1
1430 ENDPROC
1440 PROCEDURE Startpage
1450   SET MODE 40 : CLG : HOME : SET FILL STYLE 2, 0, 9
1460   SET BORDER 0
1470   SET BRUSH 9
1480   LINE 20, 120; 300, 120; 300, 200; 20, 200; 20, 120
1490   SET BRUSH 2 : FLOOD 0, 0
1500   SET BRUSH 14
1510   PLOT "     480Z QUEST to NIMBUS QUEST", 20, 175 SIZE 1, 2
1520   SET BRUSH 7
1530   PLOT "By B.Warhurst. Valley Park School.", 25, 155 SIZE 1
1540   PLOT "               Cromer Gardens,", 25, 147 SIZE 1
1550   PLOT "               Wolverhampton", 25, 139 SIZE 1
1560   PLOT "               WV6 0UA", 25, 131 SIZE 1
1570   FOR Tme := 1 TO 5000 : NEXT Tme
1580 ENDPROC
```

Chain 64 Network

by Mel Holmes

The Outer Limits

Loading two dozen 480Z stations with WORDSTAR, for example, in 45 seconds. Not just using RUN to get the software going, but having the stations loaded with MAILMERGE and a dozen worksheets in such a way that, even if you turn off the server, work will not stop.

The Silicon Disk expansion for the 480Z is surely the most vital of its features. (a pity it's not 500K though) A network station must possess silicon disc if the network is to function efficiently. This is an introduction to the methods used on my own network.

It begins with the LOADSD utility which takes a list of filenames (contained in a text file with the extension .LST) and PIP's them across into the 480Z silicon disc. For instance, the files I need for using WORDSTAR can be listed as follows:

A:WS.COM
A:WSOVLY1.OVR
A:WSMSGS.OVR This text file is given the filename WS.LST
A:STAT.COM A:MAILMRGE.OVR
A:GO.COM

Once I have logged my network station on I can type LOADSD WS and all these files will be copied into my silicon disc. I am then totally independant of the server provided I am also logged onto the M: drive of my station.

However, there may have been other files in my station's silicon disc which I do not want. This is where that marvellous tool BATCH enters the scene.

I have a copy of BATCH which I call QUICK.COM (which you can call PLEASE, or anything else you like to make a BATCH command line sound more like real English.)

Wouldn't it be nice if you could say such things to your computer as *Please Load WS*. For reasons I've explained elsewhere, I like to type QUICK LOAD WS. In order to achieve this high level command the word LOAD must refer to a BATCH file with the extension .BAT, containing CP/M commands, and WS must be a parameter for that BATCH file. Here is an early simlified file I call LOAD.BAT; the purpose of each command is explained beside the listing.

```
;                       four comment/title lines
;
;LOAD.BAT
;----------
A:                      logs onto drive A:
ERA M:*.*               erase all files currently in SI.disc
Y                       confirm deletion
LOADSD $1               run the LOADSD utility with the BATCH
                        parameter as its own.
M:                      logs onto the SI. disc
$1                      runs the software specified as the
                        BATCH parameter
```

What does all this mean? Well, if I have the above files called WS.LST and LOAD.BAT on my Winchester side A: and type QUICK LOAD WS the following sequence of events takes place.

BATCH will take the file LOAD (the extension .BAT is assumed) and execute its commands, taking up to nine parameters from the command line that called it. In this case there is only one – the string WS.

My station will log onto drive A:, and erase its M: disc. BATCH will then execute the LOADSD utility using the file WS.LST (the .LST extension being assumed this time). My station will then log onto drive M: and load, from that drive the .COM file WS.

Thus the simple string, WS, was interpreted as three separate files in different contexts in order to perform a rather neat piece of file transfer.

Now all that remains is to create a set of .LST files for the software you use and by simply issuing the general command QUICK LOAD software each user can load their own silicon disc with what they need.

There are, of course, many complication to this. However, once the priciple is understood it can be refined considerably. The main drawback to the above is that users would be on USER 0. The solution to this is to extend the number of parameters on the BATCH command line to include a reference to the USER area required and then to use that parameter in the .BAT file to set the user area – like this:

```
QUICK LOAD WS on 12
```

The LOAD.BAT file now becomes:-

```
;LOAD.BAT
;--------
A:
ERA M:*.*
Y                       note that the second parameter, 'on'
LOADSD $1               is only a dummy in order to make the
USER 15                 command line read like English.
USER $3
M:
$1
```

User 15 is included here so that, if anything goes wrong, the user is not going to play around too easily with system files on drive A: USER 0. This is most important.

The next criticism may be that a user wishes to transfer other files as well as the basic software package. He may want other systems files and his own data files. Well there are plenty of parameters left (max 9 remember). So now the extension becomes:-

```
QUICK LOAD WS on 12 and BASICS.COM MYFILE.EXT
```

The fourth parameter is again a dummy, followed by a file spec (which can include wild cards) and another file spec. To get the first of these to refer to systems files and the second to user files the LOAD.BAT file now becomes:-

```
;LOAD.BAT
;--------
A:
ERA M:*.*
Y
LOADSD $1
PIP M:=$5[R]              The [R] ensures that SYS/RO files are
USER 15                   read.
USER $3
GO M:=$6[R]               This line (comming after the USER 12
STAT M:*.* $R/W           command will read from that area.
GO M:*.* $DIR             This and the previous STAT line are
ERA M:*.$$$               to ensure that all files transfered
M:                        can be erased by the next call to
                          LOAD software.
$1
```

The command line need not contain all these parameters as the following examples demonstrate.

`QUICK LOAD WS` will still do the job because the command line `PIP M:=$5[R]` will fail due to the absence of the 5th parameter. It will create, on the M: drive, the file $5.$$$. The line `GO M:=$6[R]` will fail in a similar way. The line `ERA M:*.$$$` then tidies up the failed transfers, erasing these oddities from the disc. The user area will default to 15 because $3 does not exist either.

`QUICK LOAD WS on 12` will do exactly the same but, this time, user area 12 will be assigned.

`QUICK LOAD WS on 12 and BASICS.COM` will additionally transfer the BASICS.COM interpreter into M:

`QUICK LOAD WS on 12 and my C:DATAFILE.TXT` will not transfer any systems files because the 5th parameter is now a dummy ('my') for which no match will be found. However, my data file will be transferred into M: from user are 12 side C:. Both file specs could have been given and each would have been transfered (so long as there remained sufficient memory in M: – you can see why I'd like 500K, I'm greedy).

My pupils who need to use a set of assignments with WORDSTAR can now type `QUICK LOAD WS on 12 and C:WPS*` in order to transfer all the worksheets beginning with the character string WPS into their machine. It is a practice well worth getting home to pupils that by giving their files a common root name they can transfer them 'at a stroke', so to speak.

What is needed now is the facility to be able to incorporate the parallel loading facility into this system. The above system is fine (so far) for an individual user. What we need now is another BATCH file. I'll call it CLASLOAD for now. Here's a first draft:-

```
;
;
;CLASLOAD.BAT
;------------
A:
ERA M:*.*
Y
LOADSD $1
PIP M:=$5[R]
USER 15
USER $3
GO M:=$6[R]
STAT M:*.* $R/W
GO M:*.* $DIR
M:
ERA *.$$$
A:BOOT [$7-$9] ;M:!USER 15!USER $3!$1
$1
```

and the command line becomes:-

`QUICK CLASLOAD WS on 12 and syfiles myfiles 2 to 18` for example

We're running out of paramers now ('the outer limits') so it's not quite such good English as before. It works in the same way as LOAD.BAT up to the BOOT command. This sends, to all stations on RESET from user 2 (parameter 7) to user 18 (parameter 9), a copy of the controlling station's silicon disc, followed by the commands to set the M: drive and user area and run the software.

It is with this instruction that *all* of our 24 stations can be loaded with huge chunks of software (and files) in some 45 seconds and then remain very independent of the server until user files need to re-saved.

There is a great deal more to the system than can be described in a brief article. We use the SERVER's silicon disc for holding system files in frequent use and my own front-end software for controlling access to the network. There are other files which handle the choice of NETWORK or LOCAL printers, and files which inhibit screen output so that all the untidy file transfer is invisible to the user. My front end utility enables file transfer back to the winchester to be simple and controlled, and never to side A: which must be kept clear for all the network software and system files.

How it all links together to form an integrated system must remain another story.

CHAIN 64 Network
Batching your Utilities
by Mel Holmes

As Network Manager of a CHAIN 64 with (at present) 24 stations, a 1Mbyte server, 16Mbyte Winchester and too few hours in the week, I want an operating system which is going to work for me and make life easy (well – easier!). I do not, however, want to start writing new (and hopefully clever) utilities when the tools I need are already part of my system. So what am I to do?

Network Manager's Problem 1 *From the 480Z*

Setting attributes SYS RO on files to prepare them for networking or DIR RW to release them for maintenance reasons.

SET PAINTSPA.COM [SYS RO] is not too bad from the server, but if I've just transferred files to the Winchester from a 5¼" on a 480Z I do not want to move to the server just to lock the file(s). Neither do I want to sit typing such daft things as STAT PAINTSPA.COM $SYS, followed by STAT PAINTSPA.COM $R/O, and have to wait for each command to finish execution before I can issue another. Can we not have a higher level of operating system than this? *Yes!*

Solution

Prepare a text file (using TXED, WS, WRITE, PIP, or whatever . . .) containing the following lines:

```
STAT $1 $SYS
GO   $1 $R/O,
```

and call it LOCK.BAT

Prepare another containing the lines:

```
STAT $1 $DIR
GO   $1 $R/W,
```

and call this one UNLOCK.BAT

By now you may be getting the message.

Now, if I type BATCH LOCK PAINTSPA.COM I get my intentions interpreted for me whilst I think about the next task. Similarly, if I type BATCH UNLOCK PAINTSPA.COM, the file can be released. I can also type ahead without aborting STAT!

The command line BATCH LOCK is not very user-friendly, however, so why not make a copy of BATCH.COM and call it QUICK.COM or even PLEASE.COM. The command now has a true high level ring to it:-
QUICK LOCK myfile, (or even PLEASE LOCK myfile if preferred)

The word QUICK is actually a very fast word to type compared with BATCH or PLEASE, which is an additional bonus.

Network Manager's Problem 2 *480Z or SERVER*

The erasure of unwanted files.

These will fall into different groups depending on how organised is each individual Manager. There should, however, be several clearly defined sets of files which the manager can recognise as either being unwanted or illegally stored.

On my own system, for example, the following criteria define unwanted files.

1. All files with the general file extention .$??, these being files which have failed to save correctly and are, therefore, useless.
2. All files with the extention .BAK, because all our stations have silicon disc into which userfiles are loaded for editing. Ideally, no user is in direct contact with the server whilst running software. (S)he will transfer only the latest file to the Winchester for permanent storage.
3. All user files that have appeared on side A: of the Winchester (user 1-15). This area is reserved for system software. My Front-End utility will not accept A: as a destination drive for userfiles. (Nor user areas 0 to 4, which are reserved for staff.)
4. All results files .RES from TOUCH'N'GO typing course.
5. All files on user area 15. (There is a good reason for this on our Network – too long to explain here)

So, what I need to do is go through every user-number erasing the offending files. (A bit like pushing a button all day on an ancient production line!)

Solution

Yes! another BATCH (sorry, QUICK) file is needed. How about this one, which I call CLEAN.BAT:-

```
;
;WINCHESTER CLEANING SYSTEM v1.2 By Mel Holmes
;=============================================
;
A:
USER 0
ERA *.$??                    By creating a text file like this,
ERA *.BAK                    containing all the commands you
ERA *.RES                    would like to issue in order to
B:                           keep your users in line, you can
ERA *.$??                    keep your WINI surprisingly tidy
ERA *.BAK                    and, if one or two users learn the
ERA *.RES                    hard way, the message gets around
C:                           pretty quickly that they must do
ERA *.$??                    things in an officially organised
ERA *.BAK                    way.
ERA *.RES
D:
ERA *.$??
ERA *.BAK
ERA *.RES
USER 1
A:
ERA *.*
Y
B:
ERA *.$??
ERA *.BAK
ERA *.RES
C:
ERA *.$??
ERA *.BAK
ERA *.RES
D:
ERA *.$??
ERA *.BAK
ERA *.RES
USER 2

and so on, until . . . . .

USER 15                      You arrange the command lines to
A:                           get rid of whatever your system
ERA *.*                      disallows. I erase everything on
Y                            USER 15 because we use it as a
B:                           default area for those who are only
ERA *.*                      dabbling and don't need to keep
Y                            anything permanently.
C:
ERA *.*
Y
D:
ERA *.*
Y
USER 0
A:
;
;===== FINISHED =====
```

So all I type is QUICK CLEAN, then go and teach the next bunch of dinosaurs, whilst the good old (now high level) operating system does its worst. From a 480Z station, with the same priority as all the others this barely effects other Network users.

Centec Memory Cards and Your Nimbus.

Everything your Nimbus does requires memory, adding new software such as Windows without adding more memory to handle it can actually slow your system down and make it less productive.

The reasoning behind this is simple: Windows is designed to get as much performance out of your CPU as possible.

When available memory is limited, such as on a 512K machine, the CPU must spend more time managing the memory and performing disk I/O. As a result it has less time to run the application program. Response time increases.

Windows is a large program, and it is a complicated program. To operate efficiently, most of its functions must be kept in memory, and that uses a lot of memory.

Running Windows on the Network with Nimbus computers with small memory configurations is slow. Lots of disk activity for each program as parts are being swapped in and out of memory. Lots of network activity per user, and when you have many users that can be very slow!

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Adding more memory to your Nimbus allows Windows to function more efficiently.

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How can you be sure of choosing the best add-on memory for you Nimbus?

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All Centec memory cards carry a full 24 months' warranty and our standard 24-hour replacement policy.

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In fact, Centec memory cards offer more performance and costs less.

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Network Manager's Problem 3 *(The Big One)* *Server*

How to backup the Winchester in case of fire, flood, or theft, or even the RM rarity – a hardware failure.

If you've tried to use BACK/REST (which even RM warn us about) you may easily be forgiven for going not so quietly insane.

It is impossible to run the network whilst this utility(?) is in operation as it takes almost total priority. Not content with that, it does so for hours! I tried it three times and almost became a nerevous wreck. If you've not tried it – *don't*. REST is worse, even if you can work out what the prompts mean!

If you have allowed bad housekeeping to drift rapidly through your network then you are going to have to put in a few hours to staighten out the mess before you start backing up.

If you are thinking of buying a second Winchester then your first is probably full of rubbish, unless you have school administration on the Network and a large number of over-gifted pupils. Remember, the Winchester is not really the place to permanently archive project work. Only files that are in regular use should be kept there – there are diskettes for long term archiving.

Solution

RM mention, almost as an aside, that one may use good old PIP in order to backup files. *What!* all n-thousand of them? Well, not so many if you have managed the system carefully.

Simple(?) Solution:-

Equip youself with a couple of boxes of 3.5 inch disks *(formatted when the system was not in use – as this hangs up the Network too)*.

Important – If you have tried BACK/REST then some files on your Winchester will have had their Archive flag set. You must release all such flags before trying my solution. Do this at the server by typing, for example:

```
USER 1

SET A:*.*[ARC=OFF]
SET B:*.*[ARC=OFF]
```

and so on . . . through all the user numbers.
(though why not produce a BATch file for this job too!)

NOW

If you sit at the server and, putting a suitably labelled disc into the drive, type:

```
USER 1

PIP E:=B:*.*[RAW]   ;meaning Read, Archive, Write
PIP E:=C:*.*[RAW]
PIP E:=D:*.*[RAW]
```

(remember, my users are not allowed to use side A:)

PIP will, at each command, Read *all* files, Write them on drive E: and set their Archive flag. The first time you do this it takes some time but, at least the Network can function at the same time. Each subsequent time you perform this opperation, PIP looks at all the files but, will only save those files which have had the archive flag reset when the file was edited.

What happens when you run out of disc space?, you ask. Well, you don't panic. Think! PIP was merrily setting archive flags, so any successfully transfered files specified by the last command you gave to PIP will have the flag set. If you issue exactly the same command again with a second (or even third) disc in the drive, PIP will rapidly skip passed the files it archived before and continue from where it left off. Magic! "But I don't want to sit typing PIP . . . . PIP . . . . ", you say!

Of course you don't, which is why the great light invented BATCH. How would you like to type BACKUP USER 1 and have the job done for you? Read on . . . .

Who said BATCH.CMD had to be called that anyway. If you keep your users in order you've got plenty of space to make youself another copy of BATCH.CMD called BACKUP.CMD (why not?)

Here is a text file called USER.BAT which will take a user number as a parameter and do all those clever things you don't have time for.

```
;SINGLE USER BACKUP SYSTEM - Mel Holmes v1.2
;=========================================
user 15             ;(our users are always defaulted to 15 not 0)
user %1
PAUSE :Type ^C^C to Abandon - or, PUT CORRECT USER DISC in server and
b:
era *.$??
era *.bak
era *.res
n:pip e:=*.*[raw]          Of course,  you don't need all  the
c:                         ERAse  commands if you  always  use
era *.$??                  the   BATCH CLEAN  command   before
era *.bak                  saying  BACKUP USER 1.   It depends
era *.res                  on how organised you are.  At least
n:pip e:=*.*[raw]          this way you shouln't  accidentally
d:                         back up too much rubbish.
era *.$??
era *.bak
era *.res
n:pip e:=*.*[raw]
a:
show e:
;===== FINISHED =====
```

This is the most useful of all my BATch files, as it can be run quickly at the end of a lesson before the next class come in, or even after the next class have been loaded with all the files they need. If there is insufficient disc space then just insert another disc and issue the exact same command again to backup the files that were missed the first time round.

I've gone several stages further and produced the following two batch files, to be run from the server (so as to make use of the BATCH PAUSE command). I can now run a weekly Winchester backup of user files and all the Network software updates without completely locking up the system.

```
;
;FULL WINCHESTER CLEANING and BACKUP SYSTEM by Mel Holmes
;=======================================================
;
;This batch job erases all files with the following extensions
;                .$??     .BAK      .RES
;and erases ALL FILES ON USER AREA 15
;Backup is made of disc sides B, C, and D only
Pause for you to think carefully (Press ^C^C to abort)
A:
USER 0
ERA *.$??
ERA *.BAK
ERA *.RES
B:
ERA *.$??
ERA *.BAK
ERA *.RES
C:
ERA *.$??
ERA *.BAK
ERA *.RES
D:
ERA *.$??
ERA *.BAK
ERA *.RES
^G^G
PAUSE :                          * Insert USER 0 backup disk and
M:PIP E:=B:*.*[RAW]
M:pip E:=C:*.*[RAW]
M:pip E:=D:*.*[RAW]
USER 1
B:

and so on . . . . . until

USER 15
A:
;
;===== FINISHED =====
```

The line with ^G^G on results in an error message but BEEPS for your attention to change the disc.

Backing up the *software* in a convenient way is a little more complex. What I did was to survey an SDIR listing of drive A: USER 0 and group files together in 500-600K alphabetically organised sections. I then wrote the following:-

```
;Winchester BACKUP system for USER 0 SIDE A:
;===========================================
^G^G
Pause to INSERT BACKUP DISC for files    -    A and H
pip e:=a:a*.*[raw]
pip e:=a:h*.*[raw]
show e:
^G^G
Pause to INSERT BACKUP DISC for files    -    B D E and F
pip e:=a:b*.*[raw]
pip e:=a:d*.*[raw]
pip e:=a:e*.*[raw]
pip e:=a:f*.*[raw]
show e:
^G^G
```

```
Pause to INSERT BACKUP DISC for files    -    C G and I
pip e:=a:c*.*[raw]
pip e:=a:g*.*[raw]
pip e:=a:i*.*[raw]
show e:
^G^G
Pause to INSERT BACKUP DISC for files    -    J K L M N O and Q
pip e:=a:j*.*[raw]
pip e:=a:k*.*[raw]
pip e:=a:l*.*[raw]
pip e:=a:m*.*[raw]
pip e:=a:n*.*[raw]
pip e:=a:o*.*[raw]
pip e:=a:q*.*[raw]
show e:
^G^G
Pause to INSERT BACKUP DISC for files    -    P and R
pip e:=a:p*.*[raw]
pip e:=a:r*.*[raw]
show e:
^G^G
Pause to INSERT BACKUP DISC for files    -    S*.COM
pip e:=a:s*.com[raw]
show e:
^G^G
Pause to INSERT BACKUP DISC for files    -    S others
pip e:=a:s*.*[raw]
show e:
^G^G
Pause to INSERT BACKUP DISC for files    -    T U V W X Y Z and 3
pip e:=a:t*.*[raw]
pip e:=a:u*.*[raw]
pip e:=a:v*.*[raw]
pip e:=a:w*.*[raw]
pip e:=a:x*.*[raw]
pip e:=a:y*.*[raw]
pip e:=a:z*.*[raw]
pip e:=a:3*.*[raw]
show e:
^G^G
;======================FINISHED=========================
```

A backup is something you hope you'll never use but, suppose a madman got his hands on your equipment(!) and erased your Winchester – Suppose it got stolen and you had to start from scratch on a new one (eventually). I've had to cope with both these events, so my final piece of botching (oops! BATCHing) I call PIPREST.

```
;Winchester SOFTWARE RESORE - ALL user 0 side A: software
;and side C: optional demo files for software
;
^G^G
Pause to INSERT BACKUP DISC for files    -    A and H
pip A:=E:a*.*[RWV]
pip A:=E:h*.*[RWV]
^G^G
Pause to INSERT BACKUP DISC for files    -    B D E and F
pip A:=E:b*.*[RWV]
pip A:=E:d*.*[RWV]
pip A:=E:e*.*[RWV]
pip A:=E:f*.*[RWV]
^G^G
Pause to INSERT BACKUP DISC for files    -    C G and I
pip A:=E:c*.*[RWV]
pip A:=E:g*.*[RWV]
pip A:=E:i*.*[RWV]
^G^G
```

```
Pause to INSERT BACKUP DISC for files    -    J K L M N O and Q
pip A:=E:j*.*[RWV]
pip A:=E:k*.*[RWV]
pip A:=E:l*.*[RWV]
pip A:=E:m*.*[RWV]
pip A:=E:n*.*[RWV]
pip A:=E:o*.*[RWV]
pip A:=E:q*.*[RWV]
^G^G
Pause to INSERT BACKUP DISC for files    -    P and R
pip A:=E:p*.*[RWV]
pip A:=E:r*.*[RWV]
^G^G
Pause to INSERT BACKUP DISC for files    -    S*.COM
pip A:=E:s*.com[RWV]
^G^G
Pause to INSERT BACKUP DISC for files    -    S others
pip A:=E:s*.*[RWV]
^G^G
Pause to INSERT BACKUP DISC for files    -    T U V W X Y Z and 3
pip A:=E:t*.*[RWV]
pip A:=E:u*.*[RWV]
pip A:=E:v*.*[RWV]
pip A:=E:w*.*[RWV]
pip A:=E:x*.*[RWV]
pip A:=E:y*.*[RWV]
pip A:=E:z*.*[RWV]
pip A:=E:3*.*[RWV]
^G^G
Pause to INSERT BACKUP DISC for example files    -    USER O pip C:=E:-*.*[RWV]    ;(this is
for Paintspa demos)
pip C:=E:*.A[RWV]     ;(this is viewdata demos)
pip C:=E:*.ROB[RWV]   ;(this is ROBOT ARENA programs)
pip C:=E:*.QST[RWV]   ;(this is demo Quest files)
^G^G
'====================FINISHED========================
```

Having partitioned the (new) Winchester and started PIP going from the 3.5 *system*disc, I copy, onto the Winchester, my files; PIPREST.BAT and BATCH.CMD. I can then type BATCH PIPREST and my nice high level batch file will begin to prompt me for my backup discs. An hour later the system is up and running as if it had never been away. (Useful, even if you just want to repartition your Winchester in the light of demand for each logical drive.)

Restoring USER files can be tackled at a more leisurely pace, but getting the system going is the main task.

From dBaseII to Mailmerge

by Peter Bishop

On many occasions it would be nice to collect some data from a database file and merge it into multiple copies of a word processor document, such as a letter addressed to the people on a data file. If you have DBASEII for your data files, and use WORDSTAR for word processing, and have the MAILMERGE facility, then this is how it's done . . .

1. Create a data file containing only those fields of only those records you need (using DBASEII).
2. Write this data to a file which is compatible with MAILMERGE (still using DBASEII).
3. Create the framework of the document into which the data is to be merged (using WORDSTAR).
4. Merge the data into the base document (using MAILMERGE).

These steps are explained using the example of sending a circular letter individually addressed to certain members of a club. Assume that the club membership records are held in a file CMEM.DBF, with fields as follows:

MEMNUMBER:	87001
NAME:	John Smith
ADDRESS1:	13 High Street
ADDRESS2:	Mill Estate
ADDRESS3:	Ashton
POSTCODE:	RT6 3CF
TELCODE:	0731
TELNO:	4456334
SUBSDUE:	Jul

A letter is to be sent to all members whose subs are due in July. The first step is to create a small file containing only the relevant fields of the records of the members whose subs are due in July. In DBASEII, the commands are:

```
USE B:CMEM.DBF
```

assume the main membership file is on side B: of the data disk

```
COPY TO D:MJULY.DBF STRUCTURE
```

copy the structure of this file to a new file MJULY.DBF on side D:

```
USE D:MJULY
```

log onto this new file

```
MODIFY STRUCTURE
```

check that you *definitely* have logged onto the new file before confirming this: it erases all records in the file

Move the highlight to each field you want to delete, and press ^T. Do *not* delete the field to be used for selection (SUBSDUE). The result should be something like this:

NAME:
ADDRESS1:
ADDRESS2:
ADDRESS3:
POSTCODE:
SUBSDUE:

Press ^W when all the required fields have been deleted.

Now **append** the required records from the original membership file:

```
APPEND FROM B:CMEM.DBF FOR SUBSDUE="Jul"
```

The number of incoming records is displayed – check that this is what you would expect.

The final step in DBASEII is to create the file which can be read by MAILMERGE. This is a text file, with fields separated by commas:

```
COPY TO D:JULMERG.TXT DELIMITED WITH ,
```

Note the file type: a text file, not a DBASEII file.

At this stage, close down DBASEII and use WORDSTAR to create the base letter (JULSUBS.TXT, also assumed to be on Drive D:). It must start with the directives to identify the data file and read the fields:

```
.DF D:JULMERG.TXT
.RV NAME,ADDRESS1,ADDRESS2,ADDRESS3,POSTCODE,SUBSDUE
.OP
                                        1st July 1987
&NAME&
&ADDRESS1&
&ADDRESS2&
&ADDRESS3&      &POSTCODE&
```

```
Dear &NAME&

Your subscriptions are now due. Please pay up forthwith!

                                        Yours sincerely

                                        A. Brown

                                        Membership Secretary
.PA
&NAME&
&ADDRESS1&
&ADDRESS2&
&ADDRESS3&      &POSTCODE&

.PA
```

Notes

★ The .OP directive suppresses page numbers: these would otherwise count from the beginning of the MAILMERGE run.

★ The variable SUBSDUE is read, even though it is not used.

★ The variable names are enclosed in &'s where they are to be replaced by their values in the letter.

★ The .PA directive starts a new page (for the envelope, and again at the end of the document).

★ The second set of name and address variables are to address the envelope.

Finally, still in WORDSTAR, close down the base document, log back onto drive A: and type `M` for MAILMERGE. Press `<CR>`
for all the questions except the one about pausing for paper change between pages: type `Y` for this.

Off you go! Feed the printer with letterhead paper and envelopes while you meditate on the time you are saving.

The first letter from the example would look like this:

```
                                        1st July 1987
John Smith
13 High Street
Mill Estate
Ashton      RT6 3CF

Dear John Smith

Your subscriptions are now due. Please pay up forthwith!

                                        Yours sincerely

                                        A. Brown

                                        Membership Secretary
```

- Make sure that there are **no commas** in your original database file. In particular, watch out for someone with old-fashioned ideas about punctuating addresses. The commas create new fields as far as MAILMERGE is concerned, with interesting results.
- Make sure that the *last* field in each record is **not** blank. (Blank fields in the middle of a record have no ill effects.) MAILMERGE skips the blank last field, and starts on the next record.
- Do not do more than about 50 documents in one run. If anything goes seriously wrong with a MAILMERGE run, you have to start again from the beginning.
- Try a few documents from the MAILMERGE run on continuous stationery, before you start using letterhead paper, a carbon ribbon, Conqueror envelopes, and all the other essentials of the real thing. A few sheets of continuous stationery and a faded fabric ribbon will show you whether the MAILMERGE run is working properly. Type P twice in succession at the end of a page to terminate a MAILMERGE run.

CAL is dead – Long live CER!

by Peter Bishop

From a hardware point of view, the introduction of computers into schools in the United Kingdom has passed through three phases. The first was access to mainframes, either via terminals, or by remote batch processing using punched cards. The second has been the use of eight-bit microcomputers, such as the Commodore PET, the RM 380Z and 480Z and the ACORN BBC B. The third, which is just building up momentum, is the use of sixteen-bit micros, spearheaded by the RM NIMBUS. Computer networks arrived towards the end of the second phase, but will only realise their full potential in the third.

From the point of view of the use of computers in schools, there are some parallels between the first and the third phases. In the first phase, the emphasis was almost exclusively on programming. Very simple batch processing programs were written by pupils, for use on the same types of computers as were available to commerce and industry. Although software written by pupils was very much simpler, it mirrored to some extent the type of processing carried out in actual practice. In the second phase, the emphasis shifted to computer-assisted learning (CAL), the paradigm being content-specific software packs, with a strong drill-and-practice or games influence, and great emphasis on graphics. The closest parallel outside the classroom was home computing, where computer games have been the main application.

The computers used in the third phase closely resemble those widely used in small businesses, such as the IBM PC. Once again, the emphasis within the classroom is shifting towards activities which parallel the use of computers in the world of commerce and industry. This has progressed by a decade since the mainframe days, and the commonest applications now include word processing, databases, spreadsheets, viewdata, electronic mail and control systems. (None of these was in widespread use a decade ago.)

The observation of this trend leads to the thesis of this article: '*CAL is dead. Long live CER!*' This article explores some aspects of this trend, and their consequences for pupils, teachers, hardware and software developers, and information technology in the UK.

Computing in schools looking out

One of the great failures of education in the UK this century has been its lack of contact with the outside world. It is not a question of education versus training; it is a question of gearing the elementary lifeskills which are nurtured in education to the general requirements of the society. Schools need to develop skills which are amenable to specific training for a very wide range of jobs, and in many cases re-training at regular intervals, as the idea of an entire working life in a single line of employment goes the way of the steam engine.

Computers in schools have a central and vital part to play as the educational establishment begins to adjust to this perspective. Their purpose is not to train programmers, but to produce skilled users, who understand the information processing capabilities of computers, and have some experience in putting these capabilities to productive use. Skilled computer users are required in all walks of life, from point-of-sale terminal operators in supermarkets to corporate executives who need an acute perception of their company and its markets at all times.

Accordingly, the application area of computers in schools, and in secondary schools in particular, which assumes central importance is information management: putting the information processing power of a computer to productive use in the educational context. The activities which fall into this category are those derived from commerce and industry: the use of spreadsheets, word processing, databases, viewdata, electronic mail, graphic design and control systems. All are 'content free' activities: the software is independent of the data which it processes. Accordingly, the software can be used in a variety of subject areas for a variety of purposes.

This is not to say that the data used by the software is unimportant. Stores of data need to be built up around each software package, enabling it to be used in a range of subject areas and with a wide spread of ages and abilities of pupils. Worksheets and similar teaching material needs to be developed to go with the data sets. Some thought needs to be given to the administration of these information resources, in order to prevent duplicaton of effort within a school, and to ensure that they are put to the best use.

To take a specific example: the use of word processing in the teaching of English or another modern language. The unlimited editing facilities of a word processor mean that a much higher standard of creative, communicative and descriptive writing can be achieved than was previously possible. Writing in particular styles or to particular groups of people can be practised, and given passages can be transformed from one style to another. The practice of editing drafts to correct spelling, grammar and punctuation before producing a final copy can be instilled. Most important, pupils are being taught to produce text in the way it is now most commonly done at work: on a word processor.

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Computer studies

Computer studies plays two roles in a school. It is a focus for the pupils who have a particular interest in the topic, wherever that interest may lead them, and it is a centre of expertise on computing within the school. Ideally, this expertise is to be tapped by other disciplines, as they make increasing use of computers as an educatonal resource.

The shift in emphasis towards the use of computers is reflected in the new GCSE computer studies syllabuses:

> *Overall, greater importance should be given to the use of the computer as an information processing device and the ability to use a computer sensibly, rather than to its internal workings*
>
> [GCSE National Criteria, 1985]

To an increasing extent, work done within computer studies will complement the use of computers elsewhere in the school. The computer will be used for various information management tasks, in order to learn what it can do, and to study, by first-hand experience in some cases, the ways in which computers are used in commerce and industry.

One consequence of this trend is a decline in programming. The acrimonious debate in recent years about programming languages for schools has largely ignored two vital considerations: the skill of programming is independent of the language used, and the profession of programming, in the computing industry, is disappearing. It is being replaced by software engineering, which is a much broader discipline, and uses a variety of software development tools, of which programming languages are only one, in order to produce very large, complex software products to exacting standards of correctness, on schedule and within budget. Progamming is only a tangential aspect of computer literacy, and the best that can be achieved within a school are 'rough sketches' of miniature program modules. The broader educational context of programming, in whatever language is used, needs to be examined carefully before decisions are made on the extent to which programming needs to be taught.

Computers across the curriculum

In almost every subject, the emphasis is shifting from content to process. In science, the emphasis is on the scientific method; in humanities it is the active process of interpreting information in order to infer historical, geographical or economic trends. Computers as an educational resource have a central role in this process. They can search large stores of information, and manipulate this information in order to assist the pupils to draw conclusions from it. The information banks need not be passive: pupils can conduct experiments, undertake surveys and do fieldwork in order to obtain additional information. This can be added to the store, and compared with what is already there.

An obvious example is in the study of the weather. Weather readings can be taken, at the school, over a period of time, and added to a bank of weather data accumulated by other groups, and including regional and national averages. Weather tables can be exchanged with other schools, either by swapping disks through the post, or by electronic mail. A statistical software package can be used to compare various sets of figures, and to examine trends. The educational benefits are numerous: the pupils have arrived at an understanding of weather trends by an active process, involving scientific measurement, the use of statistics (without being bogged down in computation), and the use of computers in the way in which they are used in actual practice.

By emphasising a relatively small number of computing activities, each covering a wide range of topics, the productivity of the software purchased by the schools is greatly increased. Each software pack is accompanied by a store of data, which grows with use, and a set of activity packs which contain specific instructions for the use of the software item with a particlar set of data by a particular group. Co-ordination of all this material becomes a major task, best undertaken in conjunction with the administration of the school computer network.

This trend also eases the transition into computer use by subjects which had hitherto not used them. One scenario is to take one application area at a time, allowing at least a term for each. For example, during the 'term of the spreadsheet', the staff (from mathematics and business studies) are first trained in the use of a suitable spreadsheet package. This can be done internally, by computer studies staff, or externally, at the LEA schools computer centre. The computer is introduced to these members of staff purely as a spreadsheet engine, and pupil materials based on spreadsheets are tested and/or developed. When the staff are sufficiently confident in the use of the materials, and have an adequate general knowledge of spreadsheets, lessons can be scheduled.

Computers used in this way make only minor changes in the role of the teacher, unlike some earlier CAL packages, which attempted to take over some aspects of the teaching process. The computer is an information management or problem-solving tool, used to complement the presentation of the teacher. It enables concepts to be examined in greater depth, and skills to be acquired by practice. However, the overall direction of activities, dealing with problems and explanation of concepts are still the direct responsibility of the teacher. No form of assessment of pupils is undertaken by the computer.

Future trends

Once the use of computers for various data management tasks is established in a school, the next step is convergence – paralleling the convergence of separate computer applications in commerce and industry. Word processing software will pick up tables from spreadsheets and incorporate information taken from databases. Documents will be compiled from text and graphics. Tables of data from statistical packs will be sent by electronic mail, or loaded from central computers by viewdata systems.

At one stage it seemed likely that monolithic software packages such as LOTUS 123 would become the most popular way of integrating these activities, but now it appears that operating system facilities, such as those provided by MS WINDOWS will be used instead. These allow more than one program to be run at the same time, and information to be extracted from one program and inserted into another. This enables users to continue with familiar software, but enhances the power of the software by allowing information to be transferred to and from it. The large stores of information which are associated with a particular software item are also retained.

In the longer term, a layer of enhanced intelligence is likely to appear in software, as a spinoff of the fifth generation research and development programme currently under way. Intelligent databases may be able to respond to the statement of the general aims of an enquiry by a user, instead of specific queries as at present. Demonstrator expert systems may be able to draw reasoned conclusions from bodies of information, which may be vague, incomplete and contain contradictions. If information management is a central topic in educational computing before these developments become widely available, the transition to them should not be too traumatic, and will offer further educational opportunities.

Conclusion

The most serious problems affecting educational computing in the UK at present are not shortages of hardware, but the low level of staff training, shortages of the right kind of information management software, a lack of teaching materials designed to make the best use of the hardware and software, and finance to develop and purchase these resources. If attention is focused on a fairly small number of computing activities in achools, spread throughout the curriculum, these limited resources will be put to use most effectively, and the staff training problem will become more manageable. Computers as an educational resource will help to achieve a vital educational aim: to ensure that future generations of UK citizens are skilled computer users, able to make the best use of information technology in whatever career they choose.

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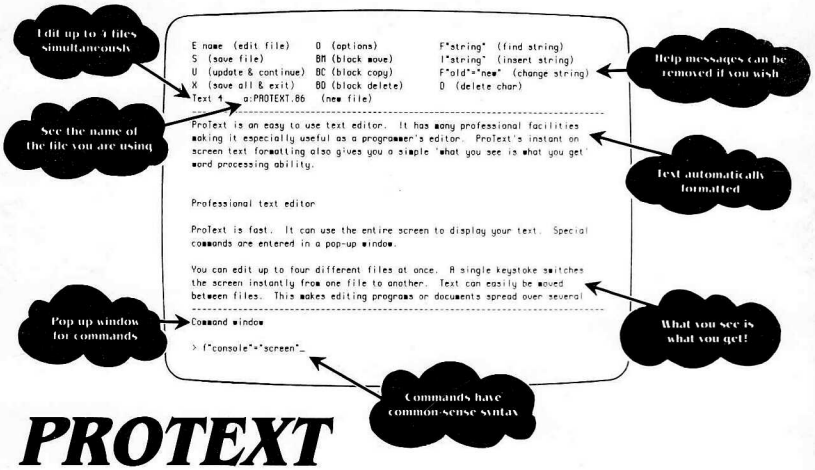
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